

AMENDMENTS TO THE SPECIFICATION

Please delete the section entitled “SUMMARY OF THE INVENTION” in its entirety and substitute the following section therefor:

SUMMARY OF THE INVENTION

[0026] The present invention, among other applications, is directed to solving the above-noted problems and addresses other problems, disadvantages, and limitations of the prior art. The present invention provides a superior technique for sharing I/O endpoints within a load-store infrastructure. In one embodiment, an apparatus for sharing input/output (I/O) endpoints is provided. The apparatus includes sharing logic and a first shared input/output (I/O) endpoint. The sharing logic is coupled to a plurality of operating system domains through a load-store fabric. The sharing logic routes transactions between the plurality of operating system domains and the sharing logic. The first shared input/output (I/O) endpoint is coupled to the sharing logic. The first shared I/O endpoint requests/completes the transactions for the each of the plurality of operating system domains according to a variant of a protocol, where the variant includes encapsulating an OS domain header within a transaction layer packet that otherwise comports with the protocol, and where a particular OS domain header associates a particular transaction layer packet with a particular one of the plurality of operating system domains.

[0027] One aspect of the present invention contemplates a shared input/output (I/O) mechanism. The shared I/O mechanism includes a load-store fabric that enables operating system domains to share one or more I/O endpoints. The load-store fabric has sharing logic that is coupled to the operating system domains and to the one or more I/O endpoints. The sharing logic routes first transactions to/from the operating systems domains, and routes second transactions to/from the one or more I/O endpoints. Each of the second transactions designates an associated one of the operating system domains for which an operation specified by each of the first transactions be performed. The second transactions comport with a variant of a protocol, where the variant includes encapsulating an OS domain header within a transaction layer packet that otherwise

comports with the protocol, and where a particular OS domain header associates a particular transaction layer packet with a particular one of the operating system domains

[0028] Another aspect of the present invention comprehends a method for sharing an input/output (I/O) endpoint within a load-store fabric. The method includes: via sharing logic within the load-store fabric, interconnecting operating system domains to the I/O endpoint; first communicating with each of the operating system domains individually; and second communicating with the I/O endpoint according to a variant of a protocol that provides exclusively for a single operating system domain within the load-store fabric to enable the I/O endpoint to associate a prescribed operation with a corresponding one of the operating system domains, where the variant includes encapsulating an OS domain header within a transaction layer packet that otherwise comports with the protocol, and where a particular OS domain header associates the transaction layer packet with the corresponding one of the operating system domains.